



‘Barriers to uptake of technology in animal production’

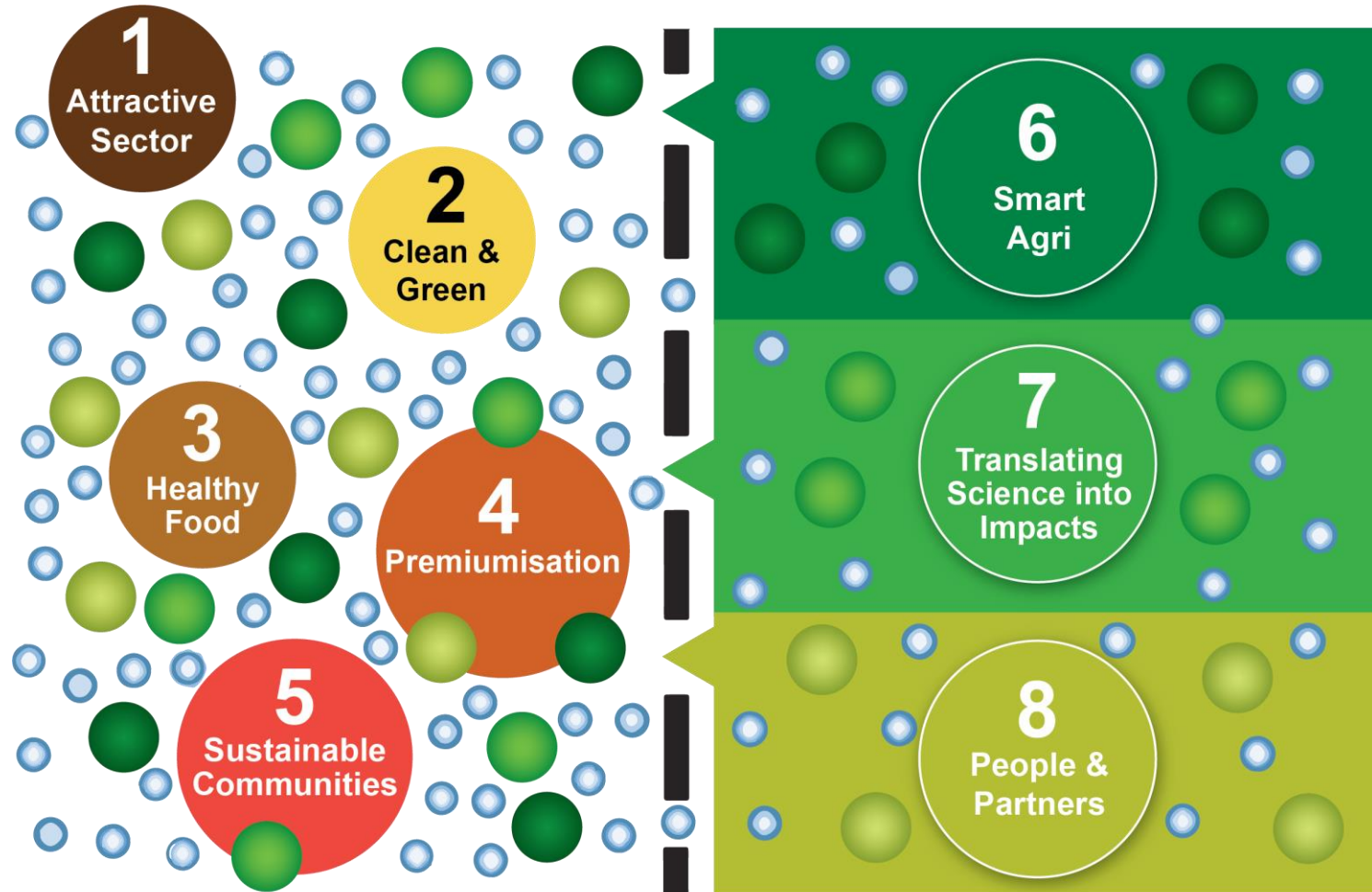


Rural Futures II: Towards Sustainable Solutions for Ruminant
Pastoral Agricultural Systems in Scotland and Ireland
Joint Teagasc-SRUC Conference, Ashtown, Dublin, 6 December 2019

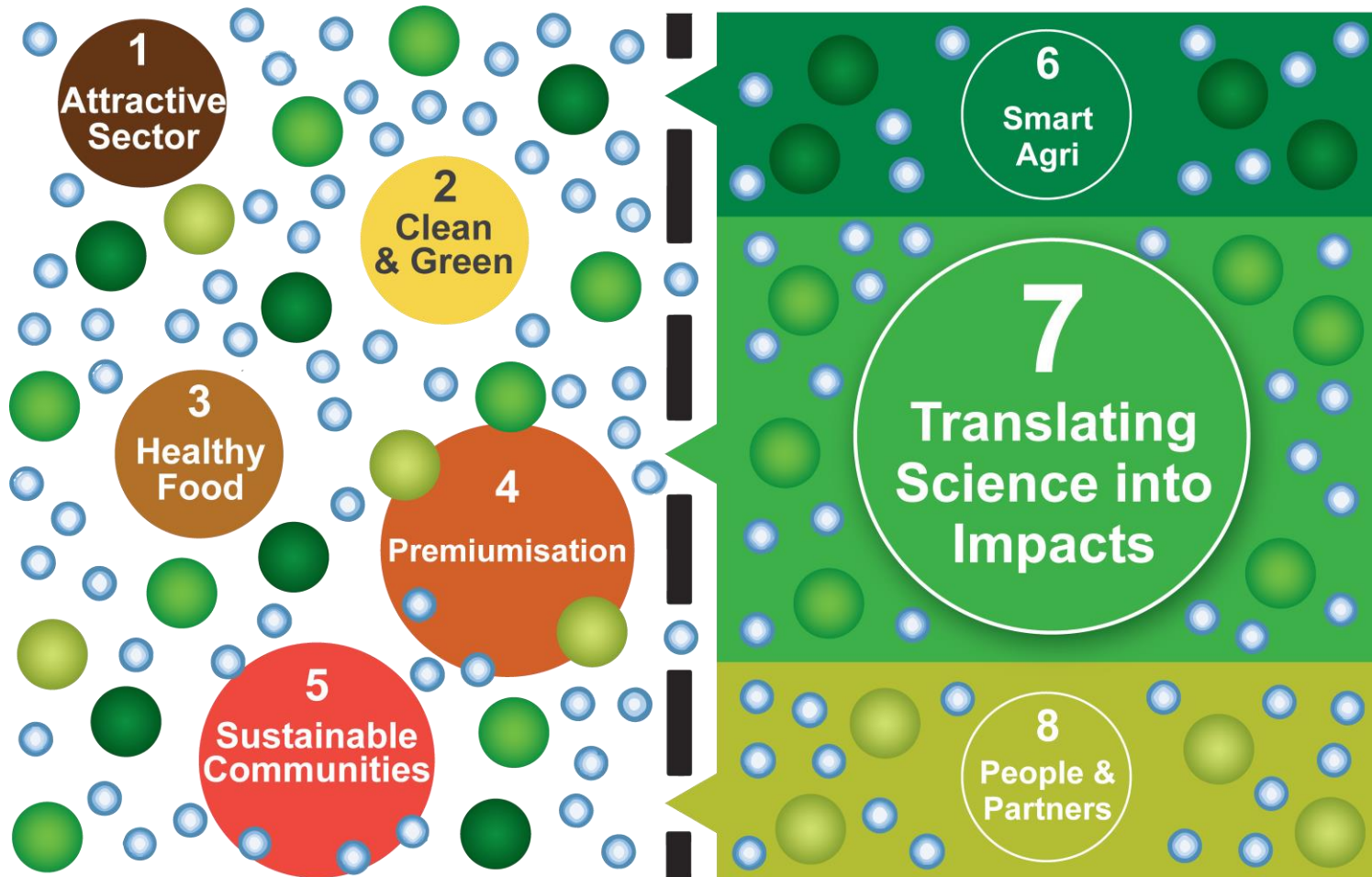
Dr Áine Macken-Walsh
Senior Research Officer
Agri-Food Business & Spatial Analysis
Rural Economy Development Programme



Teagasc Research Themes



Teagasc Research Themes



Translational Research



BASIC +

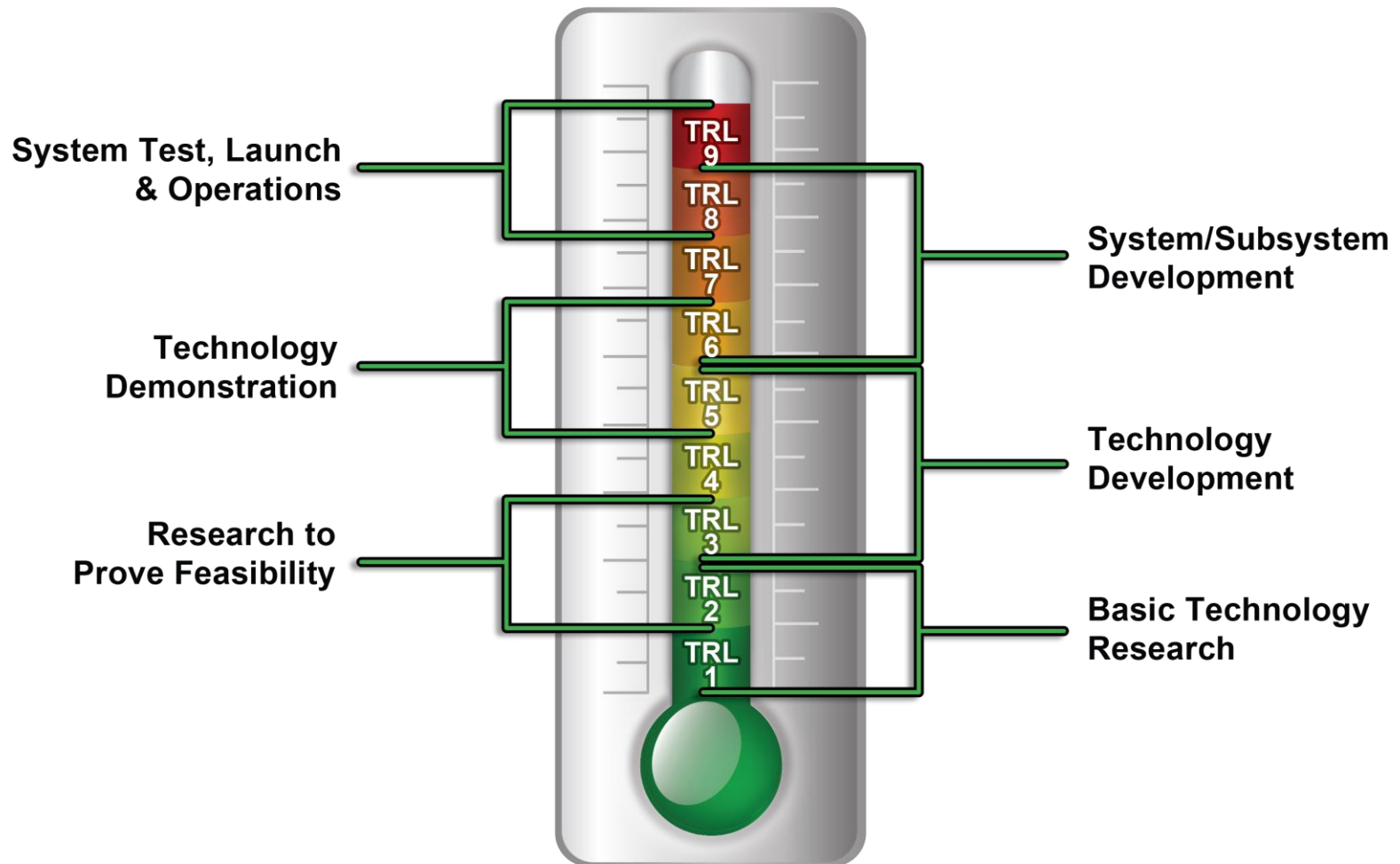


TRANSLATION

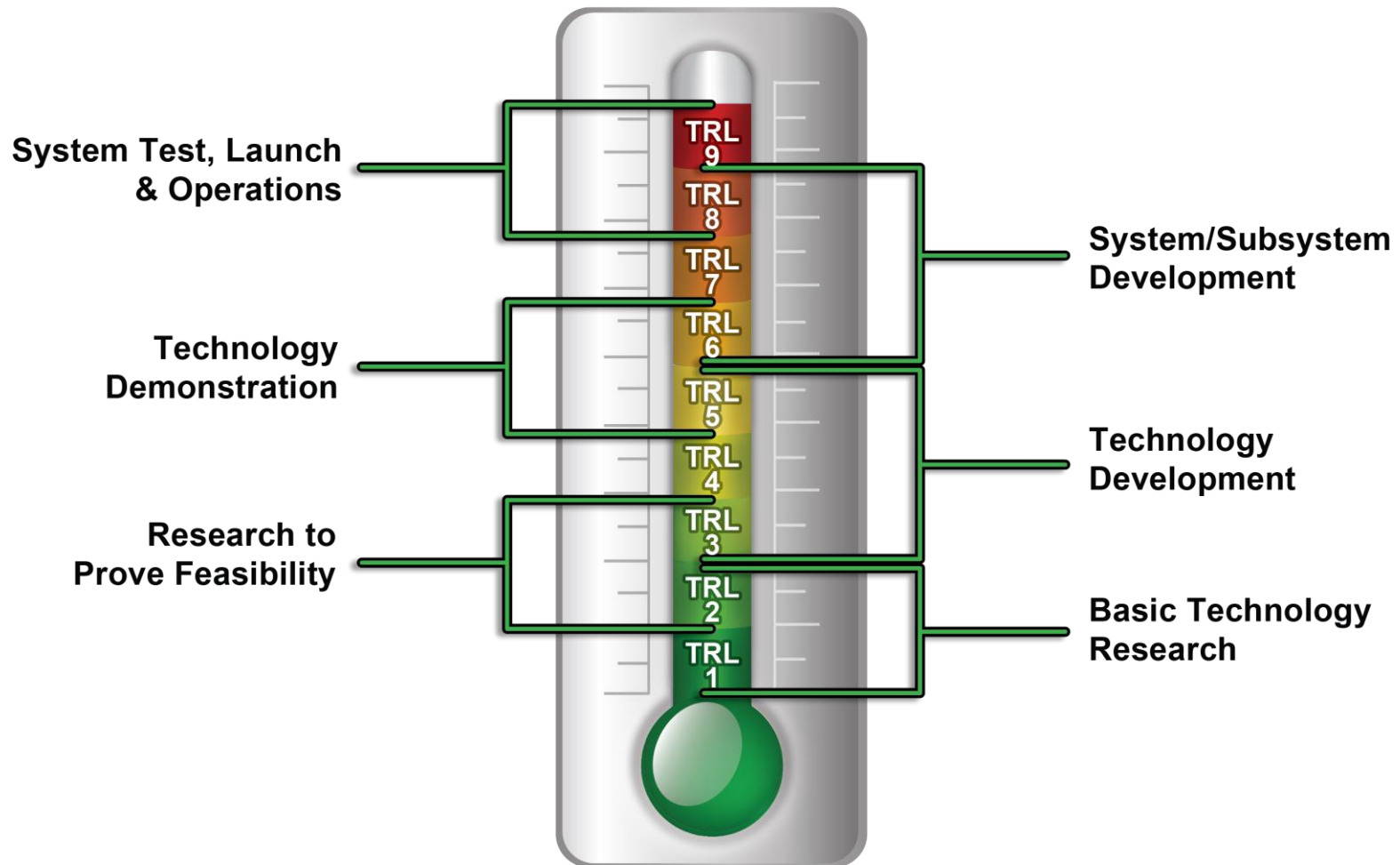


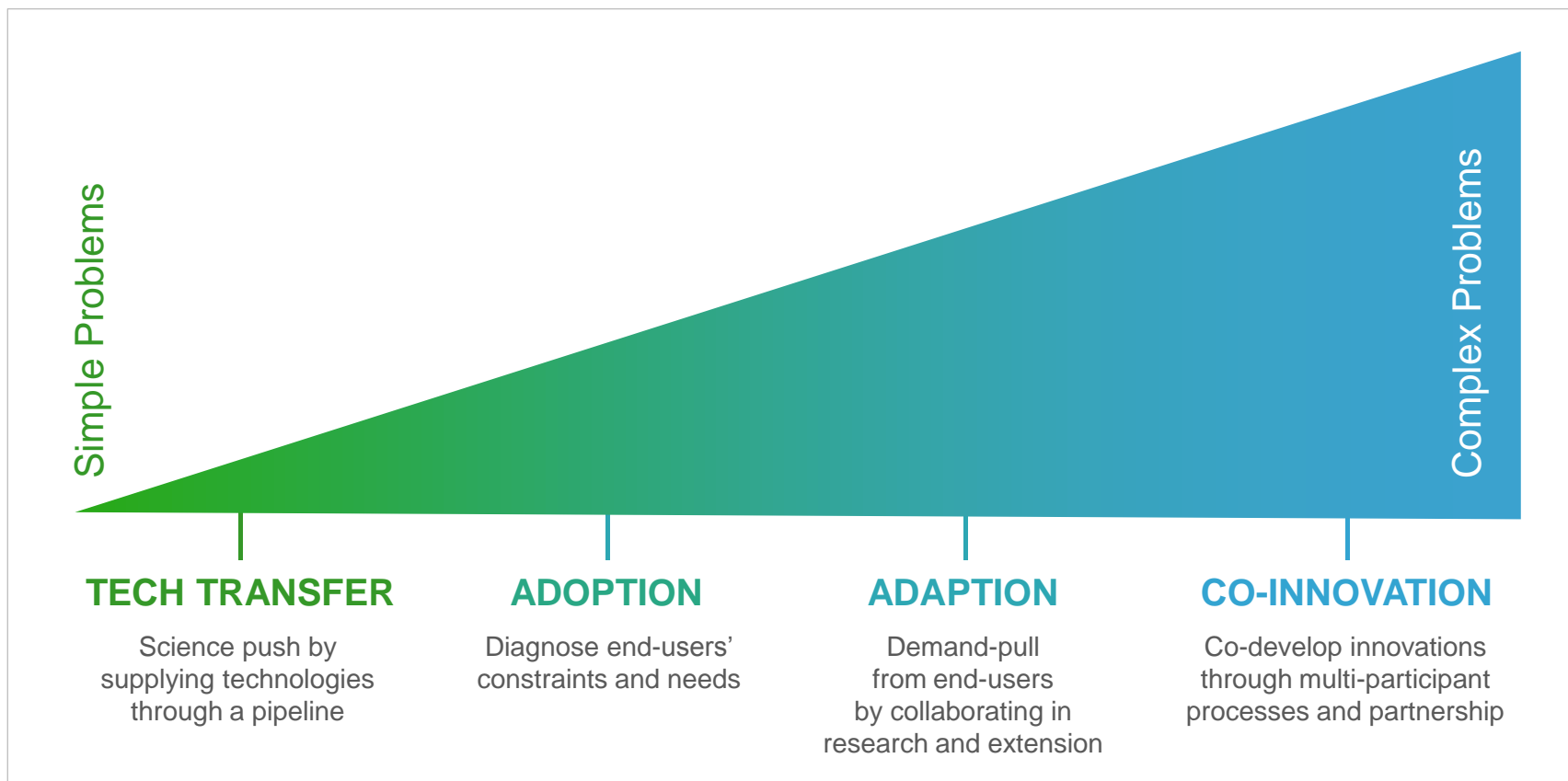
IMPACT

Technology Readiness Level



Impact / Social Readiness Level





beyondresults.co.nz

'Multi-Actor'



AgriDemo-F2F actors

Demand side:

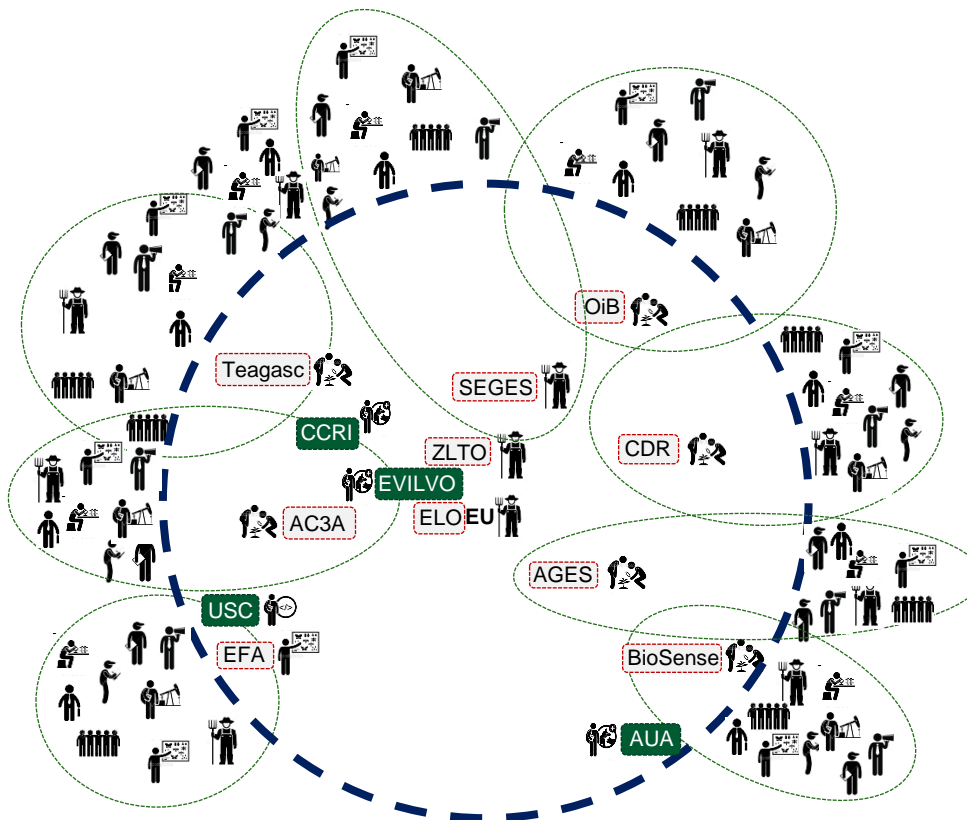
- Technology-input providers
- Advisors
- Agri research
- Training-education centers
- Agri magazines

Supply side:

- Farmers and farmer cooperatives/associations
- Operational groups , EIP thematic networks

Umbrella organisations:

- Agricultural policy advisors
- NGOs - international agricultural federations - civil society organizations



AgriDemo-F2F partners

Practitioner partners:

- Farmer associations cooperatives
- Private education organizing bodies
- EU farmer/land owner association
- Governmental or public bodies providing research, advisory and training services

Research partners:

- Social scientists
- IT scientists within agronomic universities / research institutions

AgriDemo:F2F, 2018

‘Multi-Actor’



**Horizon
Europe**

THE NEXT EU RESEARCH & INNOVATION
PROGRAMME (2021–2027)



'Multi-Actor'



Trans-Disciplinary – Higher Level Synthesis



Inter-Disciplinary - Interactive



Multi-Disciplinary - Additive



Disciplinary - Silos

The Horizon 2020 ‘multi-actor’ rule...

- **Stakeholder:** ‘consulted’ at various stages
- **Actor:** actively involved as a partner all along the project

van Oost, 2017





Arnstein 1969, adapted in Macken-Walsh 2017

Horizon Europe – Impact, flexibility, co-design



Translational Research



BASIC +



TRANSLATION



IMPACT



An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine



Multi Actor Work in Horizon 2020: Five Scenarios

1



ENGAGING & INCENTIVISING

actors and stakeholders by establishing and demonstrating the relevance of project activities, re/shaping activities where possible.



2



INTERROGATING

existing knowledge from experts and from static sources such as EIP abstracts.



3



CREATING

new ideas and knowledge, including co-design of processes & products.



4



ADDRESSING

challenges, problem solving, trouble shooting.



5



APPLYING

knowledge to particular contexts, scenarios.



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HUMAN BEHAVIOUR RESEARCH

Capital / Values

Knowledge / Types

Co-design
JD Control



Claims

Farmer's Factual Knowledge
Opportunities, Gaps,
Areas of Discordance
with Science

Beliefs & Customs

Scripts

Pragmatism & Practical Consciousness

Habits, Routines, Constraints & Pragmatism





Johne's disease in the eyes of Irish cattle farmers: A qualitative narrative research approach to understanding implications for disease management

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ABSTRACT

Bovine Johne's Disease (JD) is a disease characterised by chronic granulomatous enteritis which manifests clinically as a protein-losing enteropathy causing diarrhoea, hypoproteinaemia, emaciation and, eventually death. Some research exists to suggest that the aetiological pathogen *Mycobacterium avium* subspecies *paratuberculosis* may pose a zoonotic risk. Nationally coordinated control programmes have been introduced in many of the major milk producing countries across the world. However, JD is challenging to control in infected herds owing to limitations of diagnostic tests and the long incubation period of the disease. Internationally, research increasingly recognises that improved understanding of farmers' subjective views and behaviours may inform and enhance disease management strategies and support the identification and implementation of best practice at farm level. The aim of this study was to use qualitative research methods to explore the values and knowledges of farmers relative to the control of JD at farm level. The Biographical Narrative Interpretive Method (BNIM) was used to generate data from both infected and presumed uninfected farms in Ireland. Qualitative analysis revealed that cultural and social capital informed farmers' decisions on whether to introduce control and preventive measures. Cultural capital refers to the pride and esteem farmers associate with particular objects and actions whereas social capital is the value that farmers associate with social relationships with others. On-farm controls were often evaluated by farmers as impractical and were frequently at odds with farmers' knowledge of calf management. Knowledge from farmers of infected herds did not disseminate among peer farmers. Owners of herds believed to be uninfected expressed a view that controls and preventive measures were not worthy of adoption until there was clear evidence of JD in the herd. These findings highlight important barriers and potential aids to prevention and control in both infected and uninfected herds.

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1. Introduction

Bovine paratuberculosis or Johne's Disease (JD) is a disease characterised by chronic granulomatous enteritis which manifests clinically as a protein-losing enteropathy causing diarrhoea, hypoproteinaemia, emaciation and, eventually death (Sweeney, 2011). Adverse effects on animal productivity include lower milk yield (McAloon et al., 2016c), higher cull rates (Hendrick et al., 2005; Raizman et al., 2007), reduced value for culled animals (Richardson

and More, 2009), possible adverse effects on fertility (Johnson-Ifeorlundu et al., 2000) and losses due to continued spread of infection. These are key economic drivers in promoting control of the disease at farm level. In addition, current scientific knowledge suggests that the aetiological pathogen *Mycobacterium avium* subspecies *paratuberculosis* (MAP) may pose a zoonotic risk (Chiodini et al., 2012), although the likelihood and nature of the impact on human health remains uncertain (Waddell et al., 2016).

Nationally coordinated control programmes have been introduced in many of the major milk producing countries across the world (Geraghty et al., 2014). However, JD is challenging to control in infected herds owing to limitations of diagnostic tests and the long incubation period of the disease. In Ireland, leadership



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Áine Macken-Walsh

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Practice-ready impact



Facilitation Method: Managing Grass

This facilitation method was designed in an action research process with beef, dairy and sheep farmers, advisors, specialists and scientists.

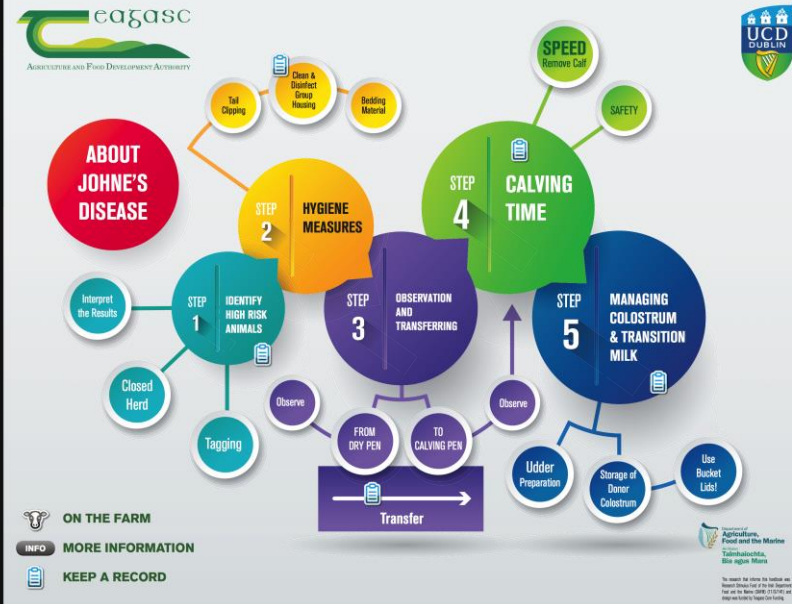


VIEW CONTENTS

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Johne's Disease A Control Strategy



Barriers?

Why co-design?

*“more suitable and diverse innovations that are **more appropriate, easier to adopt, and developed more rapidly** than innovations generated through conventional approaches”*

(Triomphe, 2012, p. 314).

Why co-design...?

*“Participants are empowered to be **“more willing and able to keep innovating as needs or opportunities arise”***

(Triomphe, 2012, p. 314).



Back to Diagram

The Grassland management action pack



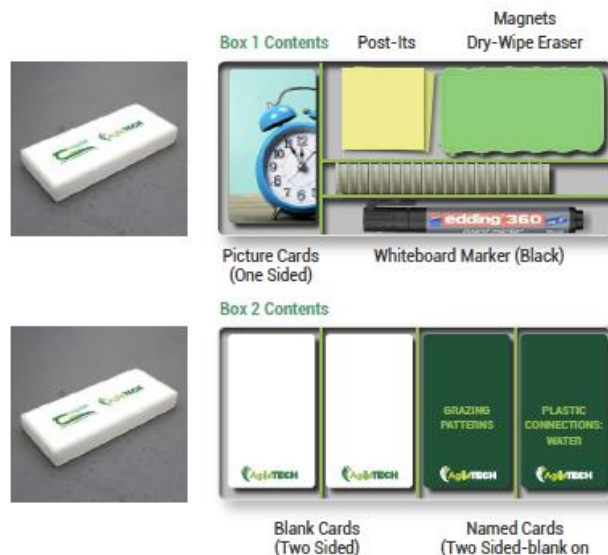
Handbook



Criteria



Timeline Stairs Charts



MG ACTION PACK

Box 1
Box2
Handbook
Criteria Sheets
Timeline Stairs Charts



MAGNETIC TABLE-TOP TIMELINE STAIRS CHART

Comes with tough polyester carry case



Warnings!

Horizon Europe - *mission-oriented*

- Legitimacy: ‘the mission should not exist in a vacuum’
- Public engagement: ‘participation in the *selection* of missions and inclusion in their *implementation*’

Mazzucato, 2019

Paradoxes of co-design

1. Combining diverse knowledges, co-design can generate outputs that are **new and strange (rather than familiar and acceptable)** to end-users;
2. **Orphaned outputs**, when lacking identifiers and affiliations outside of the co-design team;
3. For Responsible Research and Innovation, co-creating interventions that are **challenging (rather than popular)** to society may be required.

(Macken-Walsh, 2019)

Thank you

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‘Barriers’

“Farmers have legitimate reasons for non-adoption”

(Vanclay, 2004, 219)

‘Attitudes’

*“Farmers’ attitudes are not the problem”
(Vanclay, 2004, 216)*





[pinterest.com](https://www.pinterest.com)

‘Knowledge’

*“Farmers construct their own
knowledge”*

(Vanclay, 2004, 216)

How?

“I am doing it because it is the right thing to do....

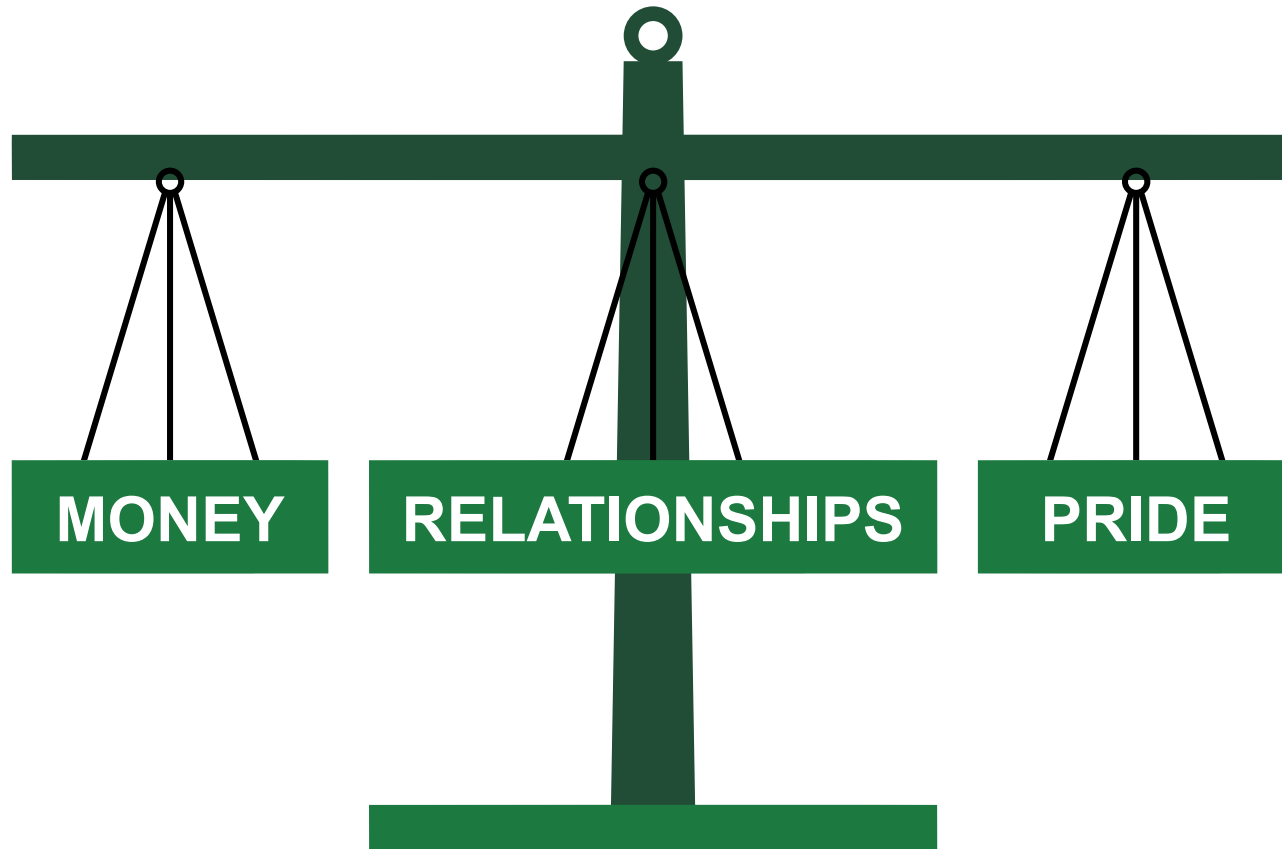
not because it is imposed upon me...

*Which is drawn as much from ancient wisdom
as from new information...*

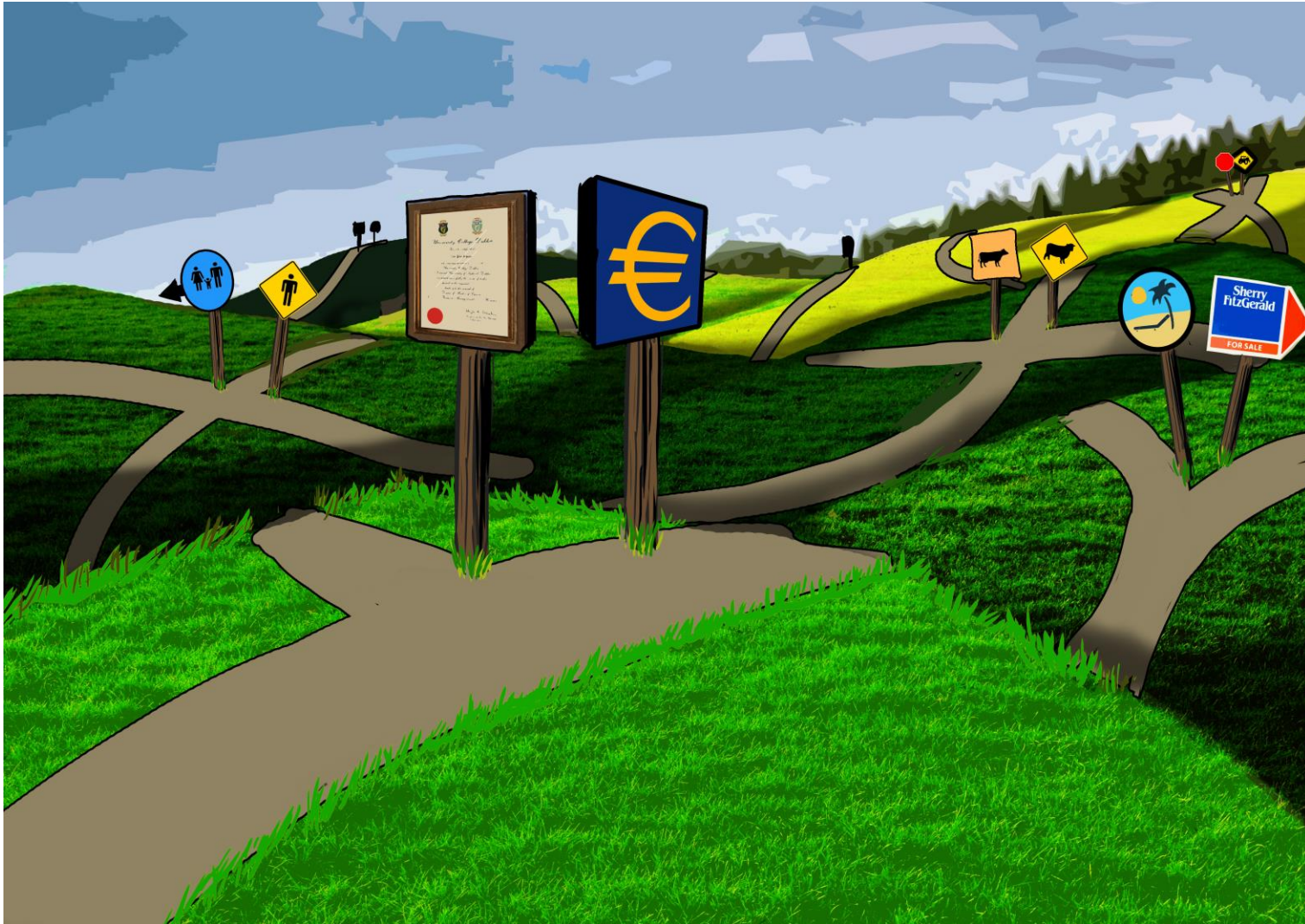
*from the ancient practices that bound their
ancestors to nature”*

*President Higgins, National Biodiversity
Conference 2019*

FARMERS' VALUES



Resilience



Cultural diversity

‘parallel to environmental diversity.. We cannot know when/how it will be useful (until it is lost), once lost it is impossible to recover’

(UNESCO, 2013, 4)

Horizon Europe

THE NEXT EU RESEARCH & INNOVATION
INVESTMENT PROGRAMME (2021 – 2027)

#HorizonEU

Based on the Commission Proposal for Horizon Europe, the common understanding between co-legislators and the Partial General Approach, both approved in April 2019

Research and
Innovation



Horizon Europe

The ambitious EU research and innovation framework programme (2021-2027)



to strengthen the EU's scientific and technological bases and the European Research Area (ERA)



to boost Europe's innovation capacity, competitiveness and jobs



to deliver on citizens' priorities and sustain our socio-economic model and values

The Commission proposes a budget of € 100 billion for Horizon Europe.

Governing

*‘Circuits built on ideology that seek to dominate ... are the most fragile and vulnerable... It is much more efficient to govern through freedoms, however illusory, than repressions.. Circuits that stress system integration and allow for **diversities and pluralities** in social integration are more **resilient and robust**’ (Clegg, 2014, 388).*